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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/599,657	06/13/2007	Peter Jonathan Bentley	020884-000014	2391

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EXAMINER	
ROBINSON, CHANCEITY N	
ART UNIT	PAPER NUMBER
1795	
MAIL DATE	DELIVERY MODE
03/03/2010	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/599,657	BENTLEY ET AL.	
	Examiner	Art Unit	
	CHANCEITY N. ROBINSON	1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 November 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-14* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. The Applicant's request for reconsideration filed on November 23, 2009 was received.

2. The text of those sections of Title 35, U.S.C. code not included in this action can be found in the prior Office Action issued on June 23, 2009.

Claim Rejections - 35 USC § 103

3. Claims 1-11 and 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nguyen (US 6,177,182 B1) in view of Bennett et al. (WO 02/11984 A1).

Regarding claims 1-4, 8 and 10-11, Nguyen discloses a thermally reactive infrared absorption polymer comprising an infrared absorption chromophoric moiety comprising derivatives including indole cyanine dye and benz[e]-indole cyanine dye, which is bonded to the backbone of an alkali-soluble phenolic resin. See column 3, line 40- column 5, line 14. Further, Nguyen discloses indole cyanine dye such as ADS810PO and benz[e]-indole cyanine dye such as ADS805PO, which meets the limitations of the instant claim of salts of indole cyanine dye and benz[e]-indole cyanine dye. (See examples 5 and 14). Nguyen discloses a heat sensitive positive working lithographic printing plate precursor comprising a substrate and a layer coated thereon, wherein the layer comprises the near infrared absorption polymer. See example 18 and claim 4. Also, Nguyen discloses a process of manufacture of a heat sensitive positive working lithographic printing plate precursor, said method comprising: a) imagewise exposing the printing plate precursor with a near-infrared laser emitting at between 780 and 850 nm (example 16); and b) developing the precursor in a developing solution to remove the exposed areas. See reference claims 11-12 and examples 23-24. Also, Nguyen discloses

the drying the coated substrate coated at 80°C to give the plate precursor. See example 17.

Nguyen does not disclose the infrared chromophoric moiety is an indole cyanine dye combined with a benz[e]-indole cyanine dye. However, Bennett et al. disclose a near infrared absorption polymer (abstract and page 15, lines 1-31) comprising more than cyanine dyes (infra-red radiation absorbing compounds, page 17, lines 1- page 18, line 5) that are covalently bonded to the polymer (page 9, lines 2-3). Bennett et al. teach that the infrared radiation absorbing compounds aids in providing improvement to sensitivity of the coating and its mechanical robustness. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the near infrared absorption polymer of Nguyen to include one indole cyanine dye and also a benz[e]-indole cyanine dye because Bennett et al. teach the infrared radiation absorbing compounds aid in providing improvement to sensitivity of the coating.

Regarding claims 5-6 and 13, Nguyen does not explicitly disclose the number ratio of indole cyanine dye to benz[e]-indole cyanine dye is comprised in the range of 1:1 to 1:5. However, Nguyen recognizes that a mixture of two different cyanine dyes can be combined at different weight ratios. See example 16. Further, a person skilled in art would readily identify the number (molar) ratio of the cyanine dyes presented in the infrared absorption polymer as too large or too small would affect the stability of the coating substrate of the printing plate. The number ratio is therefore optimizable. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify/optimize the cyanine dyes to optimize ratio to acquire effective stability.

Discovery of optimum value of result effective variable in known process is ordinarily within skill of art. *In re Boesch*, CCPA 1980, 617 F.2d 272, 205 USPQ215.

Regarding claims 7 and 14, Nguyen does not explicitly disclose the number ratio of the total pendent IR chromophoric moieties relative to the parent alkali-soluble resin is comprised in the range of 1:30 to 1:5 or 1:50 to 1:3. However, a person skilled in art would identify the number ratio of the total pendent IR chromophoric moieties relative to the parent alkali-soluble resin is too large or too small would affect the stability of the coating substrate of the printing plate. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify/optimize the total pendent IR chromophoric moieties relative to the parent alkali-soluble resin to optimize the amounts to acquire effective stability. Discovery of optimum value of result effective variable in known process is ordinarily within skill of art. *In re Boesch*, CCPA 1980, 617 F.2d 272, 205 USPQ215.

Regarding claim 9, Nguyen does not explicitly disclose a positive printing plate precursor, wherein the dry coat weight of the coating layer comprising the near infrared absorption polymer is in the range 1.4-1.9 g/m^2. However, Nguyen discloses a dry coating weight of 2.0 g/m^2. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to recognize that the dry coat weight of the coating layer is 2.0 g/m^2 (reference) and 1.9 g/m^2(instant application) are closely related and therefore would be expected to perform in the same manner. The same results of the coating layer having a dry coat weight of 2.0 g/m^2 as would be expected from the coating layer having a dry coat weight of 1.9 g/m^2. *Titanium Metals Corp. v. Banner*,

778 F.2d 775, 227 USPQ 773 (Fed. Cir. 1985) (citing In re Petering, 301F.2d 676, 682, 133 USPQ 275, 280 (CCPA 1962)) (MPEP 2131.03).

4. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nguyen (US 6,177,182 B1) in view of Bennett et al. (WO 02/11984 A1) as applied to claims 1-11 and 13-15 are above, and further in view of Tao et al. (US 6,939,663 A1).

Regarding claim 12, Nguyen does not disclose the resin is a novolak resin. However, Tao et al. disclose a method for forming a positive working lithographic printing plate comprising a layer of an imageable coating over a substrate, wherein the imageable coating composition comprises of a novolak resin. See column 5, lines 36-52. Therefore, it would have been obvious to one of ordinary skill in the art to modify the resin of Nguyen as a novolak resin because Tao et al. disclose the novolak resins are thermoplastic commonly used in lithography and allows for on-press development.

Response to Arguments

5. Applicant's arguments filed 11/23/2009 have been fully considered but they are not persuasive. Applicant's principal arguments are

> *A) The Examiner is intermixing two different teachings of Bennett: the recited teaching at page 15 and 17 relating to cyanine dyes are specific to the additional radiation absorbing compound described hereinabove (which is preferably admixed with the composition). The only compounds that are disclosed to be covalently bonded to the hydroxyl group-containing polymer are the functional groups Q and/or the diazide moieties. With regards to the non-covalently bonded modifying means (ii), may be selected from a large number of compounds including a cationic cyanine dye and a compound of formula Q1-S(O)-Q2.*

Bennett does not disclose cyanine dyes that are covalently bonded to the polymer. Instead, Bennett discloses cyanine dyes that are admixed with the polymer composition (or in a separate layer). There is no reason for one skilled in the art considering Bennett to modify the near infrared absorption polymer of Nguyen to include one indole cyanine dye and also a benz[e]-indole cyanine dyes as proposed by the Examiner.

A) Examiner respectfully disagrees. The examiner is not intermixing the teaching of Bennett. Bennett is only added to teach an infrared chromophoric moiety can be covalently bonded to a polymer. The examiner notes that Bennett explicitly disclose a preferred composition for a positive-working printing plate modifying means effective to alter the dissolution rate of the composition in a developer, in unheated regions, in heated regions, or both in comparison with a corresponding composition not having such modifying means. The modifying means may be covalently bonded to the hydroxyl group-containing polymer. See page 5, lines 11-14 and lines 24-28. The polymer that the infrared chromophoric moiety is covalently bonded to is the hydroxyl group-containing polymer. Many dyes have a marked effect on the dissolution rate of the unheated coating in the developer, typically making it much more developer resistant. Thus a dye may be employed as a radiation absorbing compound and as a modifying means in certain coatings of the invention. See page 16, lines 22-23. The invention may employ one or more radiation absorbing compounds and one or more reversible insolubilizer compounds. Certain compounds are available which perform both functions. Notable among these are the cyanine dyes, which are preferred herein as radiation absorbing compounds and/or reversible insolubilizer compounds. See page 19, lines 1-5. Examiner

agrees with the applicant that functional groups Q and/or diazide moieties are covalently bonded to the hydroxy group (see page 6, 1st paragraph of applicant's argument); however, these functional groups and/or diazide moieties are reversible insolubilizer compounds. See pages 6, line 6 – page 4, line 11. The examiner notes the cyanine dyes of Bennett can either function as an absorber compound and/or a reversible insoluble compound. Therefore, examiner notes when the cyanine dye functions as a reversible insolubilizer compound it can be covalently bonded to the hydroxyl group-containing polymer as claimed by claim 1 of the instant application. Bennett teaches that infrared absorbing compounds aids in providing improvement to sensitivity of the coating and its mechanical robustness. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the near infrared absorption polymer of Nguyen to include one indole cyanine dye and also a benz[e]-indole cyanine dye because Bennett et al. teach the infrared radiation absorbing compounds aid in providing improvement to sensitivity of the coating. Therefore, the rejection is maintained.

B) There is no limitation in Bennett regarding the number of absorbing and/or modifying compounds that can be incorporated in the composition and one skilled in the art could a priori envisage. Consequently, Bennett does not motivate, teach or suggest at least two different pendent infrared chromophoric moieties covalently bonded to the backbone of an alkali-soluble resin, wherein at least one of the pendent infra-red chromophoric moieties is an indole cyanine dye and the other of which is benz[e]-indole cyanine dye as defined in instant claim 1.

B) Examiner respectfully disagrees. Bennett is only added to teach an infrared chromophoric moiety can be covalently bonded to a polymer. The examiner notes that

Bennett explicitly disclose a preferred composition for a positive-working printing plate modifying means effective to alter the dissolution rate of the composition in a developer, in unheated regions, in heated regions, or both in comparison with a corresponding composition not having such modifying means. The modifying means may be covalently bonded to the hydroxyl group-containing polymer. See page 5, lines 11-14 and lines 24-28. The polymer that the infrared chromophoric moiety is covalently bonded to is the hydroxyl group-containing polymer. Many dyes have a marked effect on the dissolution rate of the unheated coating in the developer, typically making it much more developer resistant. Thus a dye may be employed as a radiation absorbing compound and as a modifying means in certain coatings of the invention. See page 16, lines 22-23. The invention may employ one or more radiation absorbing compounds and one or more reversible insolubilizer compounds. Certain compounds are available which perform both functions. Notable among these are the cyanine dyes, which are preferred herein as radiation absorbing compounds and/or reversible insolubilizer compounds. See page 19, lines 1-5. Examiner agrees with the applicant that functional groups Q and/or diazide moieties are covalently bonded to the hydroxy group (see page 6, 1st paragraph of applicant's argument). However, these functional groups and/or diazide moieties are reversible insolubilizer compounds. See pages 6, line 6 – page 4, line 11. The examiner notes the cyanine dyes of Bennett can either function as an absorber compound and/or a reversible insoluble compound. Therefore, examiner notes when the cyanine dye function as a reversible insolubilizer compound it can be covalently bonded to the hydroxyl group-containing polymer as claimed by claim 1 of the instant application. Bennett teaches that infrared absorbing compounds aids in providing improvement to sensitivity of the coating

and its mechanical robustness. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the near infrared absorption polymer of Nguyen to include one indole cyanine dye and also a benz[e]-indole cyanine dye because Bennett et al. teach the infrared radiation absorbing compounds aid in providing improvement to sensitivity of the coating. Therefore, the rejection is maintained.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., improvement in precursor stabilization or sensitivity) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Instant Claim 1 only recites a near infrared absorption polymer comprising at least two different pendent infra-red chromophoric moieties covalently bonded to the backbone of an alkali-soluble resin, wherein at least one of the pendent infra-red chromophoric moieties is an indole cyanine dye and the other of which is a benz[e]-indole cyanine dye. Also, applicants argue the functions of the cyanine dyes disclosed by Bennett and states that Bennett teaches away from the claimed invention (see pages 7-8 of applicants' arguments submitted on 11/23/2009). However, examiner notes applicant does not recite any limitation regarding the functionality of the infrared chromophoric moieties in the instant applications claimed invention. Therefore, the rejections are maintained.

C) Tao does not motivate, teach or suggest a near infrared absorption polymer comprising two different pendent infrared chromophoric moieties covalently bonded to the backbone of alkali-soluble resin. Tao is solely concerned with water soluble novolaks

and their use in negative working and on-press developable plate precursor (therefore no alkaline development needed). Thus, the plate precursor of Tao is of a totally different technology to either Bennett or the present application. Accordingly, there is no reason for one skilled in the art considering the three cited references to go in the direction of applicants' invention.

C) Examiner respectfully disagrees. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. In this case, Bennett et al., Nguyen and Jassen et al. all disclose a process to produce a printing plate as discussed above. Nevertheless, Tao is only added to disclose resin is a novolak resin. Examiner did not disclose add Tao to teach a near infrared absorption polymer comprising two different pendent infrared chromophoric moieties covalently bonded to the backbone of alkali-soluble resin. Tao et al. disclose positive working printing plates are well-known in the art (column 1, lines 40-43). Tao et al. explicitly disclose an imageable layer comprises a novolak resin (column 5, lines 36-52), which are thermoplastic commonly used in lithography. Therefore, the rejection is maintained.

Conclusion

6. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHANCEITY N. ROBINSON whose telephone number is (571)270-3786. The examiner can normally be reached on Monday to Thursday: 7:30 am-6:00 pm eastern time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia Kelly can be reached on (571)272-1526. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Chanceity N Robinson/
Examiner, Art Unit 1795

/Cynthia H Kelly/

Supervisory Patent Examiner, Art Unit 1795